

Contents

VOLUME 17 NUMBER 1

Research Articles

- 1 **glmS of *Thermus thermophilus* HB8: an essential gene for cell-wall synthesis identified immediately upstream of the S-layer gene**
L. A. Fernández-Herrero, M.-A. Badet-Denisot, B. Badet & J. Berenguer
- 13 **Identification and characterization of new DNA replication terminators in *Bacillus subtilis***
A. H. Franks, A. A. Griffiths & R. G. Wake
- 25 **The role of cysteine residues in the transport of mercuric ions by the Tn501 MerT and MerP mercury-resistance proteins**
A. P. Morby, J. L. Hobman & N. L. Brown
- 37 **A new RNA polymerase sigma factor, σ^F , is required for the late stages of morphological differentiation in *Streptomyces* spp.**
L. Potůčková, G. H. Kelemen, K. C. Findlay, M. A. Lonetto, M. J. Buttner & J. Kormanec
- 49 **Co-ordinate, temperature-sensitive regulation of the three *Yersinia enterocolitica* flagellin genes**
V. Kapatral & S. A. Minnich
- 57 **A physical genome map of the *Burkholderia cepacia* type strain**
P. D. Rodley, U. Römmling, B. Tümmler
- 69 **Cloning and molecular characterization of two genes encoding adhesion proteins involved in *Trichomonas vaginalis* cytoadherence**
J. F. Alderete, J. L. O'Brien, R. Arroyo, J. A. Engbring, O. Musatovova, O. Lopez, C. Lauriano & J. Nguyen
- 85 **Long stretches of short tandem repeats are present in the largest replicons of the Archaea *Haloflex mediterranei* and *Haloflex volcanii* and could be involved in replicon partitioning**
F. J. M. Mojica, C. Ferrer, G. Juez & F. Rodríguez-Valera
- 95 **Cloning and characterization of *GPD2*, a second gene encoding sn-glycerol 3-phosphate dehydrogenase (NAD⁺) in *Saccharomyces cerevisiae*, and its comparison with *GPD1***
P. Eriksson, L. André, R. Ansell, A. Blomberg & L. Adler
- 109 **tRNA genes and pathogenicity islands: influence on virulence and metabolic properties of uropathogenic *Escherichia coli***
A. Ritter, G. Blum, L. Ernődy, M. Kerenyi, A. Böck, B. Neuhierl, W. Rabsch, F. Scheut & J. Häcker
- 123 **SepA, the major extracellular protein of *Shigella flexneri*: autonomous secretion and involvement in tissue invasion**
Z. Benjelloun-Touimi, P. J. Sansonetti & C. Parsot
- 137 **Characterization of a novel fibronectin-binding surface protein in group A streptococci**
B. Kreikemeyer, S. R. Talay & G. S. Chhatwal

- 147 **GvpCs with reduced numbers of repeating sequence elements bind to and strengthen cyanobacterial gas vesicles**
R. Kinsman, A. E. Walsby & P. K. Hayes
- 155 **The stationary-phase sigma factor σ^S (RpoS) is required for a sustained acid tolerance response in virulent *Salmonella typhimurium***
I. S. Lee, J. Lin, H. K. Hall, B. Bearson & J. W. Foster
- 169 **PhoP/PhoQ transcriptional repression of *Salmonella typhimurium* invasion genes: evidence for a role in protein secretion**
D. A. Pegues, M. J. Hantman, I. Behlau & S. I. Miller
- 183 **A multiple site-specific DNA-inversion model for the control of Omp1 phase and antigenic variation in *Dichelobacter nodosus***
E. K. Moses, R. T. Good, M. Sinistaj, S. J. Billington, C. J. Langford & J. I. Rood
- 197 **Characterization and regulation of the expression of FatB, an iron transport protein encoded by the pJM1 virulence plasmid**
L. A. Actis, M. E. Tolmasky, L. M. Crosa & J. E. Crosa

VOLUME 17 NUMBER 2

MicroReview

- 205 **Programmed cell death in bacteria: proteic plasmid stabilization systems**
R. B. Jensen & K. Gerdes

Research Articles

- 211 **Comparison of *ccd* of F, *parDE* of RP4, and *parD* of R1 using a novel conditional replication control system of plasmid R1**
R. B. Jensen, E. Grohmann, H. Schwab, R. Díaz-Orejas & K. Gerdes
- 221 **Deletion of DNA lying close to the *glkA* locus induces ectopic sporulation in *Streptomyces coelicolor* A3(2)**
G. H. Kelemen, K. A. Plaskitt, C. G. Lewis, K. C. Findlay & M. J. Buttner
- 231 **Characterization of a new *rho* mutation that relieves polarity of Mu insertions**
J. E. Peters & S. A. Benson
- 241 **Identification of a novel virulence gene, *virA*, on the large plasmid of *Shigella*, involved in invasion and intercellular spreading**
K. Uchiya, T. Tobe, K. Komatsu, T. Suzuki, M. Watarai, I. Fukuda, M. Yoshikawa & C. Sasakawa
- 251 **Glucose lowers CRP⁺ levels resulting in repression of the *lac* operon in cells lacking cAMP**
H. Tagami, T. Inada, T. Kunimura & H. Aiba

- 259 **An *Agrobacterium* virulence factor encoded by a Ti plasmid gene or a chromosomal gene is required for T-DNA transfer into plants**
S. Q. Pan, S. Jin, M. I. Boulton, M. Hawes, M. P. Gordon & E. W. Nester
- 271 **The -16 region, a vital sequence for the utilization of a promoter in *Bacillus subtilis* and *Escherichia coli***
M. I. Voskuil, K. Voepel & G. H. Chambliss
- 281 **Evidence that the transcriptional activator Spo0A interacts with two sigma factors in *Bacillus subtilis***
J. M. Baldus, C. M. Buckner & C. P. Moran, Jr
- 291 **A transcription terminator signal necessary for plasmic Colb-P9 replication**
A. Mori, K. Ito, K. Mizobuchi & Y. Nakamura
- 303 **Leucine-responsive regulatory protein plays dual roles as both an activator and a repressor of the *Escherichia coli* pap fimbrial operon**
M. W. van der Woude, L. S. Kaltenbach & D. A. Low
- 313 **Closing in on the toxic domain through analysis of a variant *Clostridium difficile* cytotoxin B**
C. von Eichel-Streiber, D. Meyer zu Heringdorf, E. Habermann & S. Sarting
- 323 **Gradient of genomic diversity in the *Pseudomonas aeruginosa* chromosome**
U. Römling, J. Griepel & B. Tümmler
- 333 **Multiple homologues of LuxR and LuxI control expression of virulence determinants and secondary metabolites through quorum sensing in *Pseudomonas aeruginosa* PAO1**
A. Latifi, M. K. Winson, M. Foglino, B. W. Bycroft, G. S. A. B. Stewart, A. Lazdunski & P. Williams
- 345 **Characterization of the *yenI/yenR* locus from *Yersinia enterocolitica* mediating the synthesis of two *N*-acylhomoserine lactone signal molecules**
J. P. Throup, M. Camara, G. S. Briggs, M. K. Winson, S. R. Chhabra, B. W. Bycroft, P. Williams & G. S. A. B. Stewart
- 357 **Identification of a chemotaxis operon with two *cheY* genes in *Rhodobacter sphaeroides***
M. J. Ward, A. W. Bell, P. A. Hamblin, H. L. Packer & J. P. Armitage
- 367 **A cellulase/xylanase-negative mutation of *Streptomyces lividans* 1326 defective in cellobiose and xylobiose uptake is mutated in a gene encoding a protein homologous to ATP-binding proteins**
Y. Hurtubise, F. Shareck, D. Kluepfel & R. Morosoli
- 379 **The leucine zipper of *Aeromonas salmonicida* AbcA is required for the transcriptional activation of the P2 promoter of the surface-layer structural gene, *vapA*, in *Escherichia coli***
B. Noonan & T. J. Trust
- 387 **NodS is an S-adenosyl-L-methionine-dependent methyltransferase that methylates chitooligosaccharides deacetylated at the non-reducing end**
D. Geelen, B. Leyman, P. Mergaert, K. Klarskow, M. Van Montagu, R. Geremia & M. Holsters

MicroCorrespondence

- 399 **An Archaeobacterial eIF-1A: new grist for the mill**
P. J. Keeling & W. F. Doolittle
- 401 **The malleability of the carboxy-terminus of the *Escherichia coli* β' subunit of RNA polymerase: a *bi* functional fusion of the LacZ(α) region**
G. C. Rowland & R. E. Glass

VOLUME 17 NUMBER 3

MicroReviews

- 405 **RNA capping enzyme and DNA ligase: a superfamily of covalent nucleotidyl transferases**
S. Shuman & B. Schwer
- 411 **Rnase P — a 'Scarlet Pimpernel'**
L. A. Kirsebom
- 421 **Why does *Escherichia coli* recycle its cell wall peptides?**
J. T. Park
- 427 **Maturation pathway of nisin and other lantibiotics: post-translationally modified antimicrobial peptides exported by Gram-positive bacteria**
W. M. de Vos, O. P. Kuipers, J. R. van der Meer & R. J. Siezen

Research Articles

- 439 **An intron-containing meiosis-induced recombination gene, *rec15*, of *Schizosaccharomyces pombe***
Y. Lin & G. R. Smith
- 449 **The extreme C-terminus is required for secretion of both the native polygalacturonase (PehA) and PehA-Bla hybrid proteins in *Erwinia carotovora* subsp. *carotovora***
T. Palomäki & H. T. Saarilahti
- 461 **MxiG, a membrane protein required for secretion of *Shigella* spp. lpa invasins: involvement in entry into epithelial cells and in intercellular dissemination**
A. Allaoui, P. J. Sansonetti, R. Ménard, S. Barzu, J. Mounier, A. Phalipon & C. Parsot
- 471 **Analysis of an *Escherichia coli* mutant TyrR protein with impaired capacity for tyrosine-mediated repression, but still able to activate at σ^{70} promoters**
T. Kwok, J. Yang, A. J. Pittard, T. J. Wilson & B. E. Davidson
- 483 **Evidence for two aromatic amino acid-binding sites, one ATP-dependent and the other ATP-independent, in the *Escherichia coli* regulatory protein TyrR**
T. J. Wilson, V. P. Argæet, G. J. Howlett & B. E. Davidson
- 493 **Transcription-induced deletions in *Escherichia coli* plasmids**
D. Vilette, S. D. Ehrlich & B. Michel

- 505 **Direct regulation of the ATPase activity of the transcriptional activator DmpR by aromatic compounds**

V. Shingler & H. Pavel

- 515 **Functional analysis of the pediocin operon of *Pediococcus acidilactici* PAC1.0: PedB is the immunity protein and PedD is the precursor processing enzyme**

K. Venema, J. Kok, J. D. Marugg, M. Y. Toonen, A. M. Ledeboer, G. Venema & M. L. Chikindas

- 523 ***Salmonella typhimurium* responses to a bactericidal protein from human neutrophils**
S.-Y. Qi, Y. Li, A. Szyroki, I. G. Giles, A. Moir & C. D. O'Connor

- 533 **Characterization of *pra*, a gene for replication control in pSAM2, the integrating element of *Streptomyces ambofaciens***

G. Sezonov, J. Hagège, J.-L. Pernodet, A. Friedmann & M. Guérineau

- 545 **Detection of induced β -galactosidase activity in individual non-culturable cells of pathogenic bacteria by quantitative cytological assay**
C. E. Nwogu, C. R. Harwood & M. R. Barer

- 555 **Identification and characterization of a cell envelope protein of *Haemophilus influenzae* contributing to phase variation in colony opacity and nasopharyngeal colonization**
J. N. Weiser, S. T. H. Chong, D. Greenberg & W. Fong

- 565 **Identification of base pairs important for *OmpR*-DNA interaction**

L. A. Pratt & T. J. Silhavy

- 575 **A novel locus of *Yersinia enterocolitica* serotype O:3 involved in lipopolysaccharide outer core biosynthesis**

M. Skurnik, R. Venho, P. Toivanen & A. Al-Hendy

MicroCorrespondence

- 595 **Rnase K: one less letter in the alphabet soup**
U. Lundberg, Ö. Melefors, B. Sohlberg, D. Georgellis & A. von Gabain

- 597 **Comment on the MicroReview by Conrad Woldringh (Significance of plasmolysis spaces as markers for perispetal annuli and adhesion sites. *Mol Microbiol*, 1994, 14: 597-607)**
W. Cook & L. Rothfield

- 598 **Non-polar plasmolysis spaces in *Escherichia coli*: are they positioned by perispetal annuli or do they occur randomly? (Response to the MicroCorrespondence by Cook and Rothfield)**
C. Woldringh

Erratum

- 601 **Complementation studies with the gas vesicle-encoding p-vac region of *Halobacterium salinarum* PHH1 reveal a regulatory role for the p-gvpDE genes**
S. Offner & F. Pfeifer

Corrigendum

- 601 **Fur regulation in *Yersinia* species**
T. M. Staggs & R. D. Perry

VOLUME 17 NUMBER 4

MicroReview

- 603 **Gene regulation of siderophore-mediated iron acquisition in *Pseudomonas*: not only the Fur repressor**
V. Venturi, P. Weisbeek & M. Koster

Research Articles

- 611 **Region 2 of the *Escherichia coli* K5 capsule gene cluster encoding proteins for the biosynthesis of the K5 polysaccharide**
C. Petit, G. P. Rigg, C. Pazzani, A. Smith, V. Sieberth, M. Stevens, G. Boulnois, K. Jann & I. S. Roberts

- 621 **The endogenous *Bacillus subtilis* (natto) plasmids pTA1015 and pTA1040 contain signal peptidase-encoding genes: identification of a new structural module on cryptic plasmids**
W. J. J. Meijer, A. de Jong, G. Bea, A. Wisman, H. Tjalsma, G. Venema, S. Bron & J. M. van Dijk

- 633 **NusG overexpression inhibits Rho-dependent termination in *Escherichia coli***
E. Burova & M. E. Gottesman

- 643 **Molecular analysis of the two-component genes, *ompR* and *envZ*, in the symbiotic bacterium *Xenorhabdus***
N. Tabatabai & S. Forst

- 653 **A genomic locus in *Saccharomyces cerevisiae* with four genes up-regulated by osmotic stress**
V. J. Miralles & R. Serrano

- 663 **The *dnaK* operon of *Streptomyces coelicolor* encodes a novel heat-shock protein which binds to the promoter region of the operon**
G. Bucca, G. Ferina, A. M. Puglia & C. P. Smith

- 675 **A third periplasmic transport system for L-arginine in *Escherichia coli*: molecular characterization of the *artPIQMJ* genes, arginine binding and transport**
U. Wissenbach, S. Six, J. Bongaerts, D. Ternes, S. Steinwachs & G. Unden

- 687 **In *Rhizobium meliloti*, the operon associated with the *nod* box n5 comprises *nodL*, *noeA* and *noeB*, three host-range genes specifically required for the nodulation of particular *Medicago* species**

M. Ardourel, G. Lortet, F. Maillet, P. Roche, G. Truchet, J.-C. Promé & C. Rosenberg

- 701 ***Salmonella enteritidis* has a homologue of *tolC* that is required for virulence in BALB/c mice**
B. J. Stone & V. L. Miller

- 713 **An *rpoE*-like locus controls outer membrane protein synthesis and growth at cold temperatures and high pressures in the deep-sea bacterium *Photobacterium* sp. strain SS9**
E. Chi & D. H. Bartlett

- 727 **Localized denaturation of *oriT* DNA within relaxosomes of the broad-host-range plasmid R1162**
S. Zhang & R. J. Meyer

- 737 **Developmental control of the heat-shock stress regulon in *Streptomyces coelicolor***
A. M. Puglia, J. Vohradsky & C. J. Thompson
- 747 **Antisense RNA regulation of the *fatB* iron transport protein gene in *Vibrio anguillarum***
L. S. Waldbeser, Q. Chen & J. H. Crosa
- 757 **The deletion of 70 amino acids near the N-terminal end of the sucrose-specific porin ScrY causes its functional similarity to LamB *in vivo* and *in vitro***
K. Schüle, C. Andersen & R. Benz
- 769 **Rearrangements in the staphylococcal β -lactamase-encoding plasmid, pIP1066, including a DNA inversion that generates two alternative transposons**
A. Derbise, K. G. H. Dyke & N. El Solh
- 781 **Functional conservation of the *Salmonella* and *Shigella* effectors of entry into epithelial cells**
D. Hermant, R. Ménard, N. Arricau, C. Parsot & M. Y. Popoff
- 791 **Referees**
- MicroCorrespondence*
- 799 **New name for the positive regulator of the M protein of group A *Streptococcus***
J. R. Scott, P. Cleary, M. G. Caparon, M. Kehoe, L. Heden, J. M. Musser, S. Hollingshead & A. Podbielski
- VOLUME 17 NUMBER 5
- MicroReview*
- 801 **Transcriptional regulation of bioluminescence genes from *Vibrio fischeri***
D. M. Shtnikov, J. B. Schineller & T. O. Baldwin
- Research Articles*
- 813 **Distinct transcriptional regulation of a gene coding for a mitochondrial protein in the yeasts *Saccharomyces cerevisiae* and *Kluyveromyces fragilis* despite similar promoter structures**
W. Mulder, I. H. J. M. Scholten & L. A. Grivell
- 825 **The speed of the *Escherichia coli* fork *in vivo* depends on the DnaB:DnaC ratio**
K. Skarstad & S. Wold
- 833 **Characterization of domains in the yeast MAP kinase Sit2 (Mpk1) required for functional activity and *in vivo* interaction with protein kinases Mkk1 and Mkk2**
M. Soler, A. Plovins, H. Martín, M. Molina & C. Nombela
- 843 **Gene-regulatory modules in *Escherichia coli*: nucleoprotein complexes formed by cAMP-CRP and CytR at the *nupG* promoter**
H. Pedersen, J. Dall, G. Dandanell & P. Valentin-Hansen
- 855 **High adhesiveness of encapsulated *Neisseria meningitidis* to epithelial cells is associated with the formation of bundles of pili**
M. Marceau, J.-L. Beretti & X. Nassif
- 865 **Opa-typing: a high-resolution tool for studying the epidemiology of gonorrhoea**
M. O'Rourke, C. A. Ison, A. M. Renton & B. G. Spratt
- 877 **Mutational analysis reveals dispensability of the N-terminal region of the *Aspergillus* transcription factor mediating nitrogen metabolite repression**
T. Langdon, A. Sheerins, A. Ravagnani, M. Gielkens, M. X. Caddick & H. N. Arst, Jr
- 889 ***Mycobacterium tuberculosis* is a natural mutant with an inactivated oxidative-stress regulatory gene: implications for sensitivity to isoniazid**
V. Deretic, W. Philipp, S. Dhandayuthapani, M. H. Mudd, R. Curcic, T. Garbe, B. Heym, L. E. Via & S. T. Cole
- 901 **Green fluorescent protein as a marker for gene expression and cell biology of mycobacterial interactions with macrophages**
S. Dhandayuthapani, L. E. Via, C. A. Thomas, P. M. Horowitz, D. Deretic & V. Deretic
- 913 **Green fluorescent protein as a new expression marker in mycobacteria**
L. Kremer, A. Baulard, J. Estaquier, O. Poulain-Godefroy & C. Loch
- 923 **Transcriptional organization and expression of *nodX*WBTUV, a locus that regulates cultivar-specific nodulation of soybean by *Rhizobium fredii* USDA257**
L. G. Kovács, P. A. Balatti, H. B. Krishnan & S. G. Pueppke
- 935 **Regulation of nucleoside diphosphate kinase and an alternative kinase in *Escherichia coli*: role of the *sspA* and *rnk* genes in nucleoside triphosphate formation**
S. Shankar, D. Schlichtman & A. M. Chakrabarty
- 945 **Asymmetric distribution of the *Listeria monocytogenes* ActA protein is required and sufficient to direct actin-based motility**
G. A. Smith, D. A. Portnoy & J. A. Theriot
- 953 **Specific recognition of the *Bacillus subtilis* *gnt* *cis*-acting catabolite-responsive element by a protein complex formed between CcpA and seryl-phosphorylated HPr**
Y. Fujita, Y. Miwa, A. Galinier & J. Deutscher
- 961 **Analysis of the *motA* flagellar motor gene from *Rhodospirillum rubrum*, a bacterium with a unidirectional, stop-start flagellum**
D. S. H. Shah & R. E. Sockett
- 971 **Binding of the TorR regulator to *cis*-acting direct repeats activates *tor* operon expression**
G. Simon, C. Jourlin, M. Ansaldi, M.-C. Pascal, M. Chippaux & V. Méjean
- 981 **Participation of the purine repressor in control of the carbamoylphosphate synthetase operon in *Salmonella typhimurium***
C.-D. Lu, S. Katzf & A. T. Abdelal
- 989 **Molecular characterization and transcriptional analysis of a multidrug resistance gene cloned from the pristinamycin-producing organism, *Streptomyces pristinaespiralis***
V. Blanc, K. Salah-Bey, M. Folcher & C. J. Thompson

- 1001 **Stress-activated expression of a *Streptomyces pristinaespiralis* multidrug resistance gene (*ptr*) in various *Streptomyces* spp. and *Escherichia coli***
K. Salah-Bey, V. Blanc & C. J. Thompson
- 1013 **GroEL (Hsp60)-based eubacterial and organellar phylogenies**
A. Viale

VOLUME 17 NUMBER 6

Research Articles

- 1015 **Identification by *in vitro* complementation of regions required for cell-invasive activity of *Bordetella pertussis* adenylate cyclase toxin**
M. Iwaki, A. Ullmann & P. Šebo
- 1025 **Potassium channel activation by glutathione-S-conjugates in *Escherichia coli*: protection against methylglyoxal is mediated by cytoplasmic acidification**
G. P. Ferguson, D. McLaggan & I. R. Booth
- 1035 ***Vibrio* spp. secrete proaerolysin as a folded dimer without the need for disulphide bond formation**
K. R. Hardie, A. Schulze, M. W. Parker & J. T. Buckley
- 1045 **Transcriptional regulation of repressor synthesis in mycobacteriophage L5**
C. E. Nesbit, M. E. Levin, M. K. Donnelly-Wu & G. F. Hatfull
- 1057 **Pilus biogenesis and epithelial cell adherence of *Neisseria gonorrhoeae* *pilC* double knock-out mutants**
T. Rudel, H.-J. Boxberger & T. F. Meyer
- 1073 **Uptake and nuclear transport of *Neisseria* IgA1 protease-associated α -proteins in human cells**
J. Pohlner, U. Langenberg, U. Wölk, S. C. Beck & T. F. Meyer
- 1085 **Transcriptional activation of the *Escherichia coli* *bgl* operon: negative regulation by DNA structural elements near the promoter**
J. Singh, M. Mukerji & S. Mahadevan
- 1093 **Characterization of *AGT1* encoding a general α -glucoside transporter from *Saccharomyces***
E.-K. Han, F. Cotty, C. Sottas, H. Jiang & C. A. Michels
- 1109 **Usual regulatory mechanism for a *Streptomyces* multidrug resistance gene, *ptr*, involving three homologous protein-binding sites overlapping the promoter region**
K. Salah-Bey & C. J. Thompson
- 1121 **The *recA* gene of *Lactococcus lactis*: characterization and involvement in oxidative and thermal stress**
P. Duwat, S. D. Ehrlich & A. Gruss
- 1133 **Single amino acid substitutions in the N-terminus of *Vibrio cholerae* TcpA affect colonization, autoagglutination, and serum resistance**
S. L. Chiang, R. K. Taylor, M. Koomey & J. J. Mekalanos
- 1143 **Adhesion properties of mutants of *Staphylococcus aureus* defective in fibronectin-binding proteins and studies on the expression of *fmb* genes**
C. Greene, D. McDevitt, P. Francois, P. E. Vaudaux, D. P. Lew & T. J. Foster
- 1153 **Molecular genetics and transport analysis of the copper-resistance determinant (*pco*) from *Escherichia coli* plasmid pRJ1004**
N. L. Brown, S. R. Barrett, J. Camakaris, B. T. O. Lee & D. A. Rouch
- 1167 **A cell-surface polysaccharide that facilitates rapid population migration by differentiated swarm cells of *Proteus mirabilis***
D. Gygi, M. M. Rahman, H.-C. Lai, R. Carlson, J. Guard-Petter & C. Hughes
- 1177 **Lethality of *rep recB* and *rep recC* double mutants of *Escherichia coli***
M. Uzest, S. D. Ehrlich & B. Michel
- 1189 **Four genes, two ends, and a *res* region are involved in transposition of Tn5053: a paradigm for a novel family of transposons carrying either a *mer* operon or an integron**
G. Y. Kholodii, S. Z. Mindlin, I. A. Bass, O. V. Yurieva, S. V. Minakhina & V. G. Nikiforov
- 1201 **Meningococcal pilin: a glycoprotein substituted with digalactosyl 2,4-diacetamido-2,4,6-trideoxyhexose**
E. Stimson, M. Virji, K. Makepeace, A. Dell, H. R. Morris, G. Payne, J. R. Saunders, M. P. Jennings, S. Barker, M. Panico, I. Blench & E. R. Moxon

MicroCorrespondence

- 1215 **Structural and functional similarities between the SbcCD proteins of *Escherichia coli* and the RAD50 and MRE11 (RAD32) recombination and repair proteins of yeast**
G. J. Sharples & D. R. F. Leach
- 1218 **A protein family associated with filament biogenesis in bacteria**
N. Firth & R. A. Skurray
- 1219 **Domain structure of the outer membrane transporter protein CyaE of *Bordetella pertussis***
R. Gross

Indexes

- 1221 **Keyword Index**
- 1227 **Author Index**